ABSTRACT OF DISCLOSURE:

The invention concerns a method for extracting a geological horizon and related properties of a seismic representation, comprising a step (100) which consists in digital modeling with continuous local seismic traces, calculating the optimal offset and defining a conditional neighbourhood of a reference central continuous local seismic trace; a step (101) which consists in defining a two-dimensional matrix whereof the line and column indices correspond to the coordinates of the geophones; a third step (102) which consists in selecting a seed point; a fourth step (103) which consists in determining the point vertically closest to the seed point and a fifth step (104) which consists in assigning to the point $P(p,q,t)$ the value $P(p,q,t+hij,pq,k)$, where hij,pq,k is optimal offset of the neighbouring point $P(i,j,k)$, so as to estimate the related properties of the conditional neighbourhood thereby filling the two-dimensional extraction matrix of step (101).